

## MEMORANDUM

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| <b>DATE:</b>    | April 11 <sup>th</sup> , 2016            |
| <b>FROM:</b>    | Eric Lancaster                           |
| <b>SUBJECT:</b> | March Weekly Progress Report @ Gold King |
| <b>TO:</b>      | Steven Way                               |

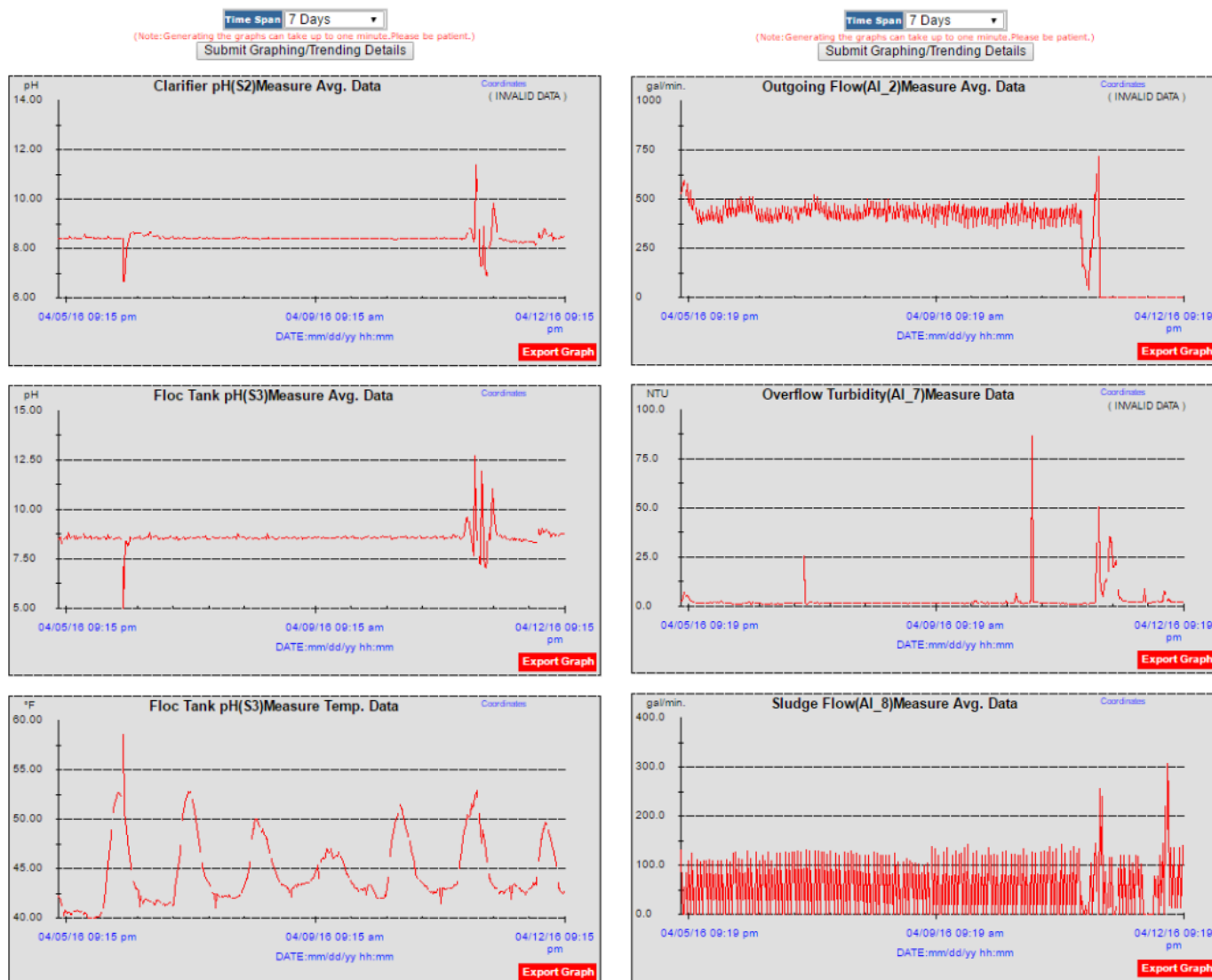
**Project:** Gold King Interim Water Treatment Plant (IWTP)  
**Location:** Gladstone, Colorado  
**Prepared for:** Emergency Response Unit – US EPA Region 8

**Reporting Period:** Apr 4 – Apr 11  
**Report No.:** 16

### I. General Operations Summary:

#### IWTS Function/Upsets

- The following graphs provide trending information collected by datalogging equipment during the previous 7 days. These dataloggers collect control information from the Lime Circuit (left) and Flow Circuit (right) Programmable Logic Controllers (PLCs) at the Gold King IWTP. Over the reporting period (4/4/16 – 4/11/16 inclusive) Alexco treated 4.27 million gallons at an average flow rate of 423 gpm with all discharged treated water leaving the 12" HDPE pipeline.



- Please note: Several days each week, the Alexco operators check the pH at both the flocculation tank and clarifier discharge. During this time, the probe is placed in vinegar (acid), and three pH buffers – 4, 7, and 10. While the probe is in the acid/buffer, the datalogger may capture one of those points for tracking purposes, which explains the occasional pH spikes seen on the graph. For example, on 4/6/2016 the Alexco operator soaked both pH probes in acid to remove build-up of calcium on the glass bulbs. This can be seen in the short drop in pH at both the flocculation and clarifier pH probes.
- On 4/7/2016 and again on 4/10/2016, the Alexco operator cleaned out the turbidimeter, which caused a brief spike in NTUs.
- On 4/11/2016 at 11:00am the Alexco operator shut-off flow to the plant and backed up water in the upper ponds. During this time, a vac-truck removed collected solids from the bottom of the lime slurry tank which have been causing peristaltic lime pump failures. The material was removed and deposited on the sludge bag liner in the A cell. Soon after the plant was restored to operator, but did experience some overshoot and undershoot issues with the pH set-point during dewatering of the upper ponds. Within a few hours the system returned to normal operation.

#### **Communication System Function Status**

- No issues – reliable operations during the reporting period.

#### **Facility or System Related Work, including Repairs & Completions**

- **Installation of Incoming Flow Meter** – Alexco has moved the outgoing flow meter to the incoming flow meter location (4/11/2016). A replacement flow meter will be ordered and installed in the outgoing flow meter position.
- **Stress Test** – The stress test was scheduled and completed on 4/12/2016 by Alexco, Weston, and ER. Results to be provided shortly, but in general the system performed well. A surge of 1,200 gpm passed through the plant without issue; incoming and outgoing samples were taken by Weston at flow rates up to 950 gpm.

### **II. Identified Problems, Causes, and Solutions (Planned or Implemented)**

- **Spring Melt Contingency Updates:**
  - **Second Clarifier** – Alexco has received written notice to move forward with the installation/operation of a rental clarifier and supporting infrastructure required for spring melt.
  - **Additional Bags** – Alexco has additional textile bags (2X 125' x 45 and 1X 90' x 45') located at site that can contain an additional 2,000 CY of sludge. Alexco is able to install one or two of these additional textile bags if needed during spring melt depending on access and snow cover.

### **III. System Inspections – Specific elements inspected and finding**

- N/A

#### IV. Site Status

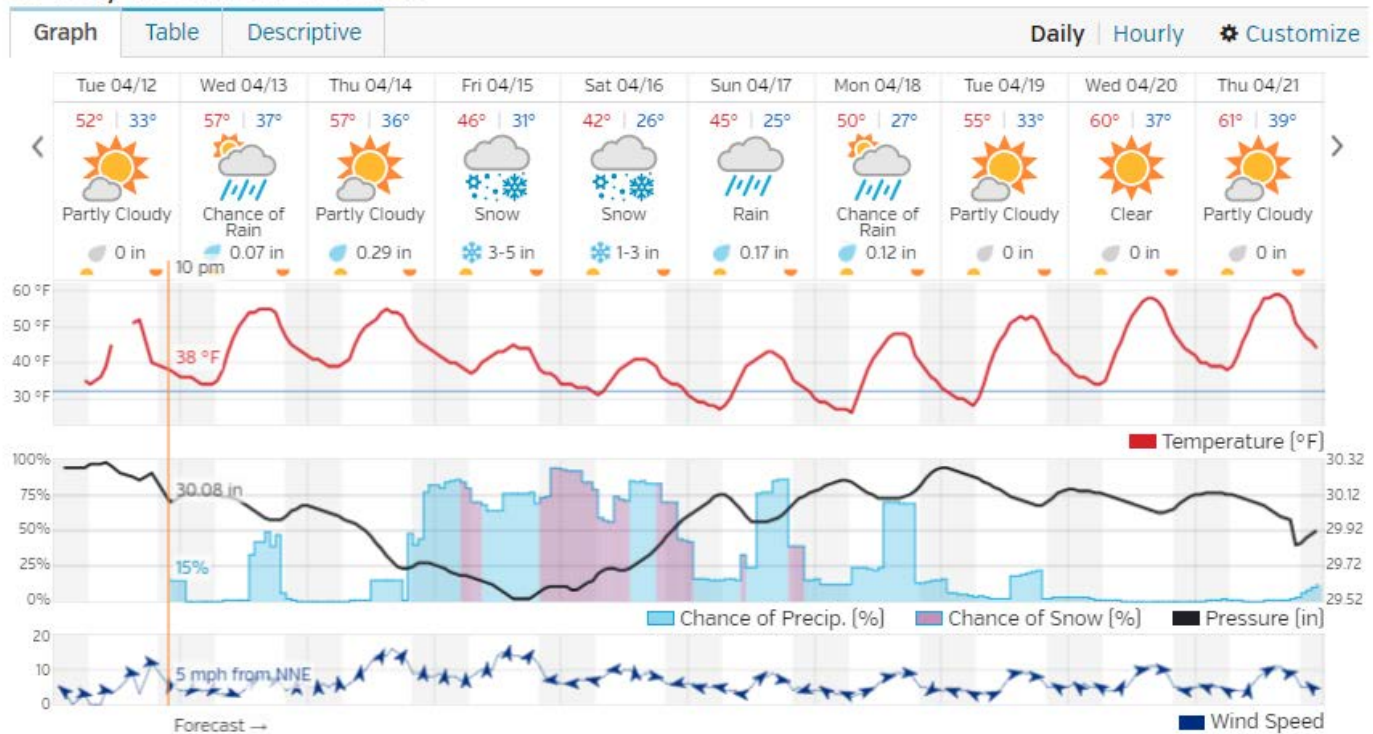
##### Personnel and equipment onsite

- Alexco currently employs one full-time employee (FTE) who lives in Silverton and oversees all operations at the Gold King IWTP. He is supported by remote operators in Denver, and local sub-contractors as needed.

##### Weather conditions

- Weather Underground Report for Silverton, CO (4/12/2016 – 4/21/2016)

#### 10-Day Weather Forecast



## Site Images



Figure 1: Site from road near discharge – Taken on 4/11/2016